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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,315	10/01/2004	Rolf-Dieter Pavlik	2002P03969WOUS	4839

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

LI, GUANG W

ART UNIT	PAPER NUMBER
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2446

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/510,315	Applicant(s) PAVLIK ET AL.	
	Examiner GUANG LI	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13, 15-19, 23-29, 31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13, 15-19, 23-29 and 31-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Remark date 10/08/2008
2. Claims 11-13, 15-19, 23-29 and 31-32 are presented for examination.

Request for Continued Examination

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/08/2008 has been entered.

Response to Arguments

4. Applicant's arguments filed 10/08/2008 have been fully considered but they are not persuasive.
5. Applicant argues the following limitation(s):
 - Applicant argues, stated in the remark on page 5 “applicants propose amendment to each of the independent claims in order to overcome this rejection. However, the amendment is based in part on a traversal of the Section 101 rejection with respect to certain of the dependent claims. Specifically, claim 12 requires that the web server comprises a connection to a communication network. Thus the claim, now canceled, was directed to a combination of hardware and software.” On the contrary, the amendment does not overcome Section 101 rejection. Applicant discloses web server providing a connection to a communication network is over the rejection 101. Examiner disagrees with applicant with this argument. A web server can

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create a logical (software) connection that able to communicate to a communication network which that logical connection is a software connection instead of directed to a combination of hardware and software connection as stated in the remark. In the claim language, there is no explicitly point out the connection is directed to a combination of hardware and software. For all the reasons above, Examiner maintains his rejection under §101.

- Applicant argues, stated in the remark on page 6, “As previously urged, Swales may disclose a PLC, but does not disclose a web server comprising an expansion module which provides the functions of a PLC. With respect to Lindner, that reference also discloses a PLC but does not disclose a web server comprising an expansion module which provides the functions of a PLC.” On the contrary, examiner point out Linder discloses the module 11 having ladder scan functionality services I/O modules 22 connected to devices 23 that are either sensors or actuators, solving so-called ladder logic to determine outputs commanding the next state of each associated device based on all inputs for that device (see Linder: col. 3 lines 49-64). In another word, examiner interprets the PLC1 (10a) as the web server that comprising software modules (PLC ladder scanner functionality, MODUX handler, TCP/IP stack modules, Web Server) which that PLC ladder scan functionality that able to provide functionality of PLC. Since the PLC ladder scan functionality is within the PLC1 (10a) that provide the functionality of automation control of device, therefore Linder does teaches expansion module which provides the functions of a PLC. In addition, a PLC functionality just a simple logic that able to automation control the automation device. It would be obvious to integrate the function of a PLC within the Web server.

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- Applicant argues, stated in the remark on page 6, "The rejection may have interpreted the language of claim 14 as only referring to "communication between the software modules and components outside of the web server" because Swales does not appear to disclose "communication between the software modules" as suggested by the rejection. Nothing in the citations (col. 1, lines 56-61; col. 4, lines 6-7) relates to use of Internet protocols provided for communication between the software modules of claim 11." On the contrary, examiner points out general purpose network protocols using this hardware include the increasingly dominant TCP/IP, and Novell IPX, Digital Equipments DECNET and others. The TCP/IP-Ethernet combination, in particular, is the most widely deployed computer network interface in use, and therefore has minimum cost to implement and support (see Swales: col.1 lines 56-61; col.4 lines 6-7). On figure 1 of Swales discloses this enables the data transfer between the application program 22 and the user 2 through the Internet 14. The application program provides data from the process control system 6 (Swale: col.4 lines 13-16). Swales clearly stated the data transfer between the application program 22 and the user 2 this is clearly stated the communication between the application program and the user is use Internet protocol to communicate. Although the reference only showing only one application programs it will be obvious there are more than one application programs (PLC) that are communicated with the backplane and communicate to each other for controlling purpose. In addition, Linder also teaches the communication between the software modules using the Internet protocol. Linder discloses the PLC 1 (Fig.1 item 10a) comprising software modules (PLC ladder scanner functionality, MODUX handler, TCP/IP stack modules, Web Server). The communication communicate between the PLC ladder scan functionality 11, file server, MODBUS handle and TCP/IP stack are using the Internet protocol.

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Finally, Internet protocol is very common and communication between the device which make it obvious to use this common protocol to communicate between the software modules within the web server. For all the reasons above, examiner maintains his rejection on the limitation of communication between the software modules.

Claim Objections

6. Claim 12 is objected to because of the following informalities:

Claim 12 discloses “wherein the web server comprises a connection to a communication network” does not further limit the claim 11. However, this feature is claimed in the independent claim 11.

7. Appropriate correction is required.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 11-13, 15-19, 23-29 and 31-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As the specification discloses (¶[0006]), “web server comprising **software modules** and an expansion module...”. a web server comprising only software portion which directed to software per se. In addition according to Reference.com, **Web Server** can mean **a computer program** that is responsible for accepting requests from client, which are known as web browsers, and serving them HTTP responses along with optional data contents, which usually are web pages such as HTML documents are linked objected (images, etc.). It is directed to server having software module. It’s directed to the

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program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program not a manufacture structurally and functionally interconnected with the program in a manner which enables the program to act as a computer component and realize its functionality. It's also clearly not directed to a composition of matter. Therefore, it's non-statutory under 35 USC 101.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 11-13, 15-19, 23-29 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swales (US 6,321,272) in view of Lindner et al (US 6,640,140).

12. Regarding claim 11, Swales teaches a web server (Web server 30 see Swales: Fig.2 block 30) comprising software modules and an expansion module (Swales: Fig.3 web server module), wherein Internet protocols are provided for communication between the software modules and for communication between the software modules and components outside of the web server (Swales clearly stated the data transfer between the application program 22 and the user 2 this is clearly stated the communication between the application program and the user is use Internet protocol to communicate and TCP/IP protocol was use in and out of network “General purpose network protocols using this hardware include the increasingly dominant TCP/IP, and Novell IPX, Digital Equipments DECNET and others. The TCP/IP-Ethernet combination, in particular, is the most widely deployed computer network interface in use, and therefore has minimum cost to implement and support” see Swales: col.1 lines 56-61; col.4 lines 6-7), the server providing through the expansion module a first mechanism for implementing an automation functionality

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(programmable controller use to control the process control system “field of programmable controllers and more particularly to a system for the exchange of time-critical information between control devices coupled to an intranetwork such as would be common in the fields of factory automation and industrial process control” see Swales: col.1 lines 15-20) and the server further providing a mechanism (communication link between Ethernet driver 48 and network 42 see Swales: Fig. 3) to directly access the real-time communication level (“provide an interface between the general purpose network and the industrial control system that will allow the transfer of real time control data with guaranteed delivery times” see Swales: col.2 lines 31-34) of a real-time Ethernet,(web server module can be adapted to different kind of network “Examples of such networks are Ethernet, IBM Token Ring, Fiber Distributed Data Interface, the X.25 international packet switch network and many offerings from telephone companies such as Asynchronous Transfer Mode” see Swales: col.1 lines 49-55) wherein the expansion module is connected to an input/output module of an automation system (Programmable logic controller 110 able support the input 122 and output devices 120 and connected to web server through Intranet 102 see Swales: Fig.5) and wherein the web server comprises a connection to a communication network (web server module 30 within web server connects to network 42 see Swales: Fig.3 blocks 30 and 42).

Swales does not explicitly disclose an expansion module which provides the functions of programmable logic controller.

Lindner teaches an expansion module which provides the functions of programmable logic controller (the functionality services is within the PLC devices that provide functionality of PLC "The module 11 having ladder scan functionality services I/O modules 22 connected to

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devices 23 that are either sensors or actuators, solving so-called ladder logic to determine outputs commanding the next state of each associated device based on all inputs for that device” see Linder: col. 3 lines 49-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales and Lindner before them at the time the invention was made to modify the expansion module which provides the functions of programmable logic controller as taught by Lindner.

One of ordinary skill in the art would have been motivated to make this modification in order to enhance automation system for control purpose in view of Lindner.

13. Regarding claim 12, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a connection to a communication network (web server module 30 within web server connects to network 42 see Swales: Fig.3 blocks 30 and 42).

14. Regarding claim 13, Swales together with Linder taught the web server according to claim 12, as set hereinabove. Swale further teaches wherein the communication network is the Internet (the relationship between a user 2 at a remote location and an Internet web site 4 used for monitoring a process control system 6 through Internet 14 see Swales: col.3 lines 56-59; Fig.1).

15. Claim 14 is canceled.

16. Regarding claim 15, claim 15 is rejected for the same reason as claim 14 as set forth hereinabove.

17. Regarding claim 16, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server is adapted for

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configuration and administration of the software modules (administrator access the web server to control the backplane application “The gateway 72 contains a firewall to provide the necessary security and couples the PLC system 70 through an intranetwork 74 controlled by a network administrator 76” see Swales: col.9 lines 65-67 and col.10 lines 1-12).

18. Regarding claim 17, claim 17 is rejected for the same reason as claim 16 as set forth hereinabove.

19. Regarding claim 18, claim 18 is rejected for the same reason as claim 16 as set forth hereinabove.

20. Regarding claim 19, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the expansion module comprises a connection to an industrial automation system (interface between the general purpose network and the **industrial control system** that will carry on-demand traffic from computer systems, operator terminals, and alarm systems see Swales: col.2 lines 35-39).

21. Regarding claim 23, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a connection to Internet via a firewall (A firewall or security for the overall system can be included in the Web Server 30, but is generally maintained as part of the network interface 16 see Swales col.4 lines 39-41).

22. Regarding claim 24, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server is connected via a communication network to a web browser as a control and monitoring system (The browser 10 functions as a remote human-machine interface or HMI control of the process control system and

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user at a remote location utilizing a browser which controlling a programmable controller system see Swales col.4 lines 31-33; Fig.7).

23. Regarding claim 25, claim 25 is rejected for the same reason as claim 24 as set forth hereinabove.

24. Regarding claim 26, claim 26 is rejected for the same reason as claim 24 as set forth hereinabove.

25. Regarding claim 27, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a real-time operating system (A real time operating system 44 controls the interaction between the components. The operating system 44 allocates central processor (CPU) 46 to various tasks, provides memory management, and provides a set of message services and signal services see Swales col.5 lines 9-13).

26. Regarding claim 28, claim 28 is rejected for the same reason as claim 27 as set forth hereinabove.

27. Regarding claim 29, Regarding claim 11, Swales teaches a automation system comprising a web server (Web server 30 see Swales: Fig.2 block 30) comprising software modules and wherein Internet protocols are provided for communication between the software modules and for communication between the software modules and components outside of the web server (Swales clearly stated the data transfer between the application program 22 and the user 2 this is clearly stated the communication between the application program and the user is use Internet protocol to communicate and TCP/IP protocol was use in and out of network “General purpose network protocols using this hardware include the increasingly dominant

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TCP/IP, and Novell IPX, Digital Equipments DECNET and others. The TCP/IP-Ethernet combination, in particular, is the most widely deployed computer network interface in use, and therefore has minimum cost to implement and support” see Swales: col.1 lines 56-61; col.4 lines 6-7), the expansion module (Swales: Fig.3 web server module) providing an automation functionality (programmable controller use to control the process control system “field of programmable controllers and more particularly to a system for the exchange of time-critical information between control devices coupled to an intranetwork such as would be common in the fields of factory automation and industrial process control” see Swales col.1 lines 15-20) within connection to an input/output module of an automation system (Programmable logic controller 110 able support the input 122 and output devices 120 and connected to web server through Intranet 102 see Swales: Fig.5) and the server further comprising a connection providing direct access to the real-time communication level (“provide an interface between the general purpose network and the industrial control system that will allow the transfer of real time control data with guaranteed delivery times” see Swales: col.2 lines 31-34) of a real-time Ethernet(web server module can be adapted to different kind of network “Examples of such networks are Ethernet, IBM Token Ring, Fiber Distributed Data Interface, the X.25 international packet switch network and many offerings from telephone companies such as Asynchronous Transfer Mode” see Swales: col.1 lines 49-55).

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PLC "The module 11 having ladder scan functionality services I/O modules 22 connected to devices 23 that are either sensors or actuators, solving so-called ladder logic to determine outputs commanding the next state of each associated device based on all inputs for that device" see Linder: col. 3 lines 49-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales and Lindner before them at the time the invention was made to modify the expansion module which provides the functions of programmable logic controller as taught by Lindner.

One of ordinary skill in the art would have been motivated to make this modification in order to enhance automation system for control purpose in view of Lindner.

28. Regarding claim 31, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the first mechanism is a controller of components and processes (Backplane driver and Ethernet driver use for controlling process see Swales: Fig.3 blocks 50 and 56), wherein the web server includes a TCP/IP stack (Fig.3 block 54) and wherein direct access to the real-time communication level is effected by a direct connection between the TCP/IP stack and an automation device with communication by means of a TCP/IP- based real-time Ethernet protocol (Ethernet and backplane driver user the TCP/IP stack protocol to transmit messages "The TCP/IP stack 54 calls the Ethernet driver 48 to transmit a message. The Ethernet driver 46 attempts to allocate a buffer from the shared memory 52. If it succeeds, it copies the message into the buffer, and places the buffer into the AM79C961 transmit queue" see Swales: col.5 lines 35-45).

29. Regarding claims 32, they are rejected for the same reason as claim 31 as set forth hereinabove.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guang Li whose telephone number is (571) 270-1897. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 6, 2009

GL

Patent Examiner

/Joseph E. Avellino/
Primary Examiner, Art Unit 2446